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- 1                   6.       A communications system as recited in claim 1 wherein  
2       within said service area is a primary market area

1                   7.     A communications system as recited in claim 1 wherein  
2     said first plurality of satellites comprise a phase array to form said plurality of  
3     beams.

1                   8.     A communications system as recited in claim 1 wherein  
2     said satellites are disabled when coextensive with a geostationary orbit.

1                   9.     A communications system as recited in claim 1 wherein  
2     said first plurality comprises less than 9 satellites.

1                   10.    A communications system as recited in claim 1 wherein  
2     said first plurality comprises 4 satellites.

1                   11.    A communications system as recited in claim 1 wherein  
2     said first plurality comprises 5 satellites.

1                   12.    A communications system comprising:  
2                   a first plurality of satellites located in an elliptical sub-  
3     geostationary orbit with respect to the earth, said satellites operating in a service  
4     area in a synchronized manner to provide continuous coverage to said service  
5     area, said satellites generating a plurality of beams with variable beamwidth to  
6     obtain a substantially uniform cell size covering said service area, said first  
7     plurality of satellites providing a first system capacity; and  
8                   a second plurality of satellites deployed after said first plurality  
9     of satellites, said second plurality of satellites providing a second system  
10    capacity greater than the first system capacity.

1                   13.    A communications system as recited in claim 12 wherein  
2     said uniform cells are substantially fixed within said service area.

1 14. A communications system as recited in claim 12 wherein  
2 said plurality of beams provide equal capacity density to said cell size.

1 15. A communications system as recited in claim 12 wherein  
2 said minimum elevation angle is greater than 10 degrees in said service area.

1 16. A communications system as recited in claim 12 wherein  
2 within said service area is a primary market area having an elevation greater  
3 than 30°.

1 17. A communications system as recited in claim 12 wherein  
2 said first plurality of satellites comprise a phase array to form said plurality of  
3 beams.

1 18. A communications system as recited in claim 12 wherein  
2 said satellites are disabled when coextensive with a geostationary orbit.

1 19. A communications system as recited in claim 12 wherein  
2 said first plurality comprises less than 9 satellites.

1 20. A communications system as recited in claim 12 wherein  
2 said first plurality comprises 4 satellites.

1 21. A communications system as recited in claim 12 wherein  
2 said first plurality comprises 5 satellites.

1 22. A method of providing a system of inclined eccentric  
2 sub-geosynchronous satellite orbits above the earth, the method comprising:  
3 defining at least one geographic service area within which  
4 satellite coverage is to be provided, said service area having a minimum  
5 elevation angle thereabove;

26. A method as recited in claim 26 comprising launching a third set of satellites to form a third satellite constellation having optimized landmass coverage in cooperation with said first set of satellites and said second set of satellites having a third service area greater than said second service area.

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31. A method as recited in claim 27 wherein said first plurality of satellites and said second set of satellites have active arcs sized to be non-interfering with GSO satellites.

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